AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. Claims 1, 5, 14, and 32-34 have been amended.

1. (Currently amended) An air induction system for inducing airflow into the intake of an internal combustion engine having a turbocharger, said system comprising:

a clean air channel without a supercharger containing primarily clean air directing airflow to an inlet of said turbocharger~~; and~~ , said clean air channel having a structure that restores pressure head and subsequently increases the velocity of said airflow, the structure being the sole or primary instrument of restoring pressure head within said clean air channel, wherein the structure comprises

an expansion chamber ~~in fluid communication with said clean air channel~~, said expansion chamber located within an area directly in front of said inlet of said turbocharger, said expansion chamber having an increased cross-sectional area relative to a cross-sectional area of a portion of said clean air channel immediately proceeding said expansion chamber thereby restoring pressure head within said expansion chamber to compensate for losses incurred from said airflow traveling at least a portion of said clean air channel such that the velocity of said airflow is increased immediately prior to delivery of said airflow to said turbocharger.

2. (Previously presented) The air induction system of claim 1, wherein said clean air channel further comprises a bell-mouth transition positioned between an outlet of said expansion chamber and said inlet of said turbocharger.

3. (Previously presented) The air induction system of claim 2, wherein said bell-mouth transition has a radius ranging from approximately 3 to approximately 30% of an effective diameter of said inlet of said turbocharger.

4. (Previously presented) The air induction system of claim 2, wherein said bell-mouth transition has a radius of approximately 20% of an effective diameter of said inlet of said turbocharger.

5. (Currently amended) The air induction system of claim 1, wherein said ~~clean air channel~~ structure further comprises a diffuser in communication with said expansion chamber, wherein said diffuser has an interior that is generally conical in shape and comprises a cone angle that establishes an expansion rate of a cross-sectional area encompassed within said diffuser.

6. (Original) The air induction system of claim 5, wherein said cone angle is in the range of approximately 4 to approximately 16 degrees.

7. (Original) The air induction system of claim 5, wherein said cone angle is approximately 12 degrees.

8. (Previously presented) The air induction system of claim 5, wherein said clean air channel further comprises a bell-mouth transition positioned between an outlet of said expansion chamber and said inlet of said turbocharger.

9. (Previously presented) The air induction system of claim 8, wherein said bell-mouth transition has a radius ranging from approximately 3 to approximately 30% of an effective diameter of said inlet of said turbocharger.

10. (Previously presented) The air induction system of claim 8, wherein said bell-mouth transition has a radius of approximately 20% of an effective diameter of said inlet of said turbocharger.

11. (Original) The air induction system of claim 8, wherein said cone angle is in the range of approximately 4 to approximately 16 degrees.

12. (Original) The air induction system of claim 8, wherein said cone angle is approximately 12 degrees.

13. (Previously presented) The air induction system of claim 1, wherein said expansion chamber has a cross-sectional area lowering flow velocity through said expansion chamber to less than 75 m/s.

14. (Currently amended) An air induction system for inducing airflow into the intake of an internal combustion engine having a turbocharger, said system comprising:

a clean air channel without a supercharger directing airflow to an inlet of said turbocharger~~; and~~ , said clean air channel having a structure that restores pressure head and subsequently increases the velocity of said airflow, the structure being the sole or primary instrument of restoring pressure head within said clean air channel, wherein the structure comprises

means for restoring pressure head to compensate for losses incurred from said airflow traveling at least a portion of said clean air channel and subsequently increasing the velocity of said airflow within said clean air channel in an area directly in front of said inlet of said turbocharger.

15. (Previously presented) The air induction system of claim 14, wherein said means for restoring pressure head to compensate for losses incurred from said airflow traveling at least a portion of said clean air channel and subsequently increasing the velocity of said airflow within said clean air channel in said area directly in front of said inlet of said turbocharger comprises an expansion chamber, said expansion chamber having a cross-sectional area being greater than a cross-sectional area of a portion of said clean air channel immediately upstream of said expansion chamber.

16. (Previously presented) The air induction system of claim 14, wherein said clean air channel further comprises a bell-mouth transition positioned between an outlet of said means for restoring pressure head to compensate for losses incurred

from said airflow traveling at least a portion of said clean air channel and subsequently increasing the velocity of said airflow within said clean air channel and said inlet of said turbocharger.

17. (Previously presented) The air induction system of claim 16, wherein said bell-mouth transition has a radius ranging from approximately 3 to approximately 30% of an effective diameter of said inlet of said turbocharger.

18. (Previously presented) The air induction system of claim 16, wherein said bell-mouth transition has a radius of approximately 20% of an effective diameter of said inlet of said turbocharger.

19. (Previously presented) The air induction system of claim 14, wherein said clean air channel further comprises a diffuser located immediately upstream of and in communication with said means for restoring pressure head to compensate for losses incurred from said airflow traveling at least a portion of said clean air channel and subsequently increasing the velocity of said airflow within said clean air channel in said area directly in front of said inlet of said turbocharger, said diffuser being a conical diffuser comprising a cone angle that establishes an expansion rate of a cross-sectional area encompassed within said diffuser.

20. (Previously presented) The air induction system of claim 19, wherein said cone angle is in the range of approximately 4 to approximately 16 degrees.

21. (Original) The air induction system of claim 19, wherein said cone angle is approximately 12 degrees.

22. (Previously presented) The air induction system of claim 19, wherein said clean air channel further comprises a bell-mouth transition positioned between an outlet of said means for restoring pressure head to compensate for losses incurred from said airflow traveling at least a portion of said clean air channel and

subsequently increasing the velocity of said airflow within said clean air channel and said inlet of said turbocharger.

23. (Previously presented) The air induction system of claim 22, wherein said bell-mouth transition has a radius ranging from approximately 3 to approximately 30% of an effective diameter of said inlet of said turbocharger.

24. (Previously presented) The air induction system of claim 22, wherein said bell-mouth transition has a radius of approximately 20% of an effective diameter of said inlet of said turbocharger.

25. (Previously presented) The air induction system of claim 1, further comprising an air filter in fluid communication with an inlet of said clean air channel and located upstream of said expansion chamber.

26. (Previously presented) The air induction system of claim 25, wherein said clean air channel redirects said airflow, wherein said airflow travels in a direction exiting an outlet of said air filter being at least approximately 180 degrees from a direction of said airflow entering said inlet of said turbocharger.

27. (Previously presented) The air induction system of claim 5, wherein said diffuser is an angular diffuser.

28. (Previously presented) The air induction system of claim 5, wherein said diffuser and said expansion chamber each redirect the direction of said airflow within said clean air channel.

29. (Previously presented) The air induction system of claim 15, further comprising an air filter in communication with an inlet of said clean air channel and located upstream of said means for restoring pressure head to compensate for losses incurred from said airflow traveling at least a portion of said clean air channel and subsequently increasing the velocity of said airflow within said clean air channel in an area directly in front of said inlet of said turbocharger.

30. (Previously presented) The air induction system of claim 29, wherein said clean air channel redirects said airflow, wherein said airflow travels in a direction exiting an outlet of said air filter being at least approximately 180 degrees from a direction of said airflow entering said inlet of said turbocharger.

31. (Previously presented) The air induction system of claim 30, wherein said clean air channel further comprises an angular diffuser in fluid communication with said expansion chamber at approximately a 90 degree angle between a direction of said airflow exiting an outlet of the angular diffuser and a direction of said airflow exiting an outlet of said expansion chamber.

32. (Currently Amended) An air induction system for inducing airflow into the intake of an internal combustion engine having a turbocharger, said system comprising:

an air filter; and

a clean air channel in fluid communication with an outlet of said air filter so that an airflow is formed therein; , said clean air channel having a structure operable to restore pressure head and subsequently increase the velocity of said airflow, wherein the structure comprises:

a diffuser ~~in fluid communication with and located downstream of said clean air channel~~ being configured to have an interior surface that both longitudinally increases in cross-sectional area and radially diverts a flow of said airflow; and

an expansion chamber in fluid communication with and located downstream of said diffuser, the expansion chamber being configured to divert the flow of said airflow, wherein said airflow is directed to an inlet of said turbocharger.

33. (Currently amended) The air induction system of claim 32, wherein said ~~clean air channel~~ structure further comprises a bell-mouth transition located at an outlet of said expansion chamber.

34. (Currently amended) An air induction system for inducing airflow into the intake of an internal combustion engine having a turbocharger, said system comprising:

an air filter; and

a clean air channel in fluid communication with an outlet of said air filter so that an airflow is formed therein, said clean air channel having a structure located in front of an inlet to said turbocharger operable to restore pressure head and subsequently increase the velocity of said airflow, wherein the structure comprises

means for both restoring pressure head after said airflow has traveled at least a portion of said clean air channel and redirecting said airflow at least approximately 90 degrees from a direction of said airflow exiting said outlet of said air filter to a direction of said airflow entering an inlet of said turbocharger.

35. (Previously presented) The air induction system of claim 34, wherein said means for restoring pressure head after said airflow has traveled at least a portion of said clean air channel and redirecting said airflow at least approximately 90 degrees from a direction of said airflow exiting said outlet of said air filter to a direction of said airflow entering an inlet of said turbocharger comprises a diffuser in fluid communication with an expansion chamber.

36. (Previously presented) The air induction system of claim 35, wherein said system redirects said airflow, wherein said airflow travels in a direction exiting said outlet of said air filter being at least approximately 180 degrees from a direction of said airflow entering said inlet of said turbocharger.